

SEQUENCE LISTING

<110> Rudiger Ridder, et.al.
 <120> Method for solution based diagnosis
 <130> 05033.0003.00us00
 <140> 10/633,484
 <141> 2003-07-31
 <150> EP 02017313.4
 <151> 2002-08-01
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 <170> PatentIn version 3.3
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 <213> Homo sapiens
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 35 40 45

Cys Gly Arg Gln Tyr Thr Leu Lys Lys Thr Thr Thr Tyr Thr Gln Gly
 50 55 60

Val Pro Pro Ser Gln Gly Asp Leu Glu Tyr Gln Met Ser Thr Thr Ala
 65 70 75 80

Arg Ala Lys Arg Val Arg Glu Ala Met Cys Ser Gly Val Ser Gly Glu
 85 90 95

Asp Ser Ser Leu Leu Leu Ala Thr Gln Val Glu Gly Gln Ala Thr Asn
 100 105 110

Leu Gln Arg Leu Ala Glu Pro Ser Gln Leu Leu Lys Ser Ala Ile Val
 115 120 125

His Leu Ile Asn Tyr Gln Asp Asp Ala Glu Leu Ala Thr Arg Ala Leu
 Page 1

130

135

140

Pro Glu Leu Thr Lys Leu Leu Asn Asp Glu Asp Pro Val Val Val Thr
145 150 155 160

Lys Ala Ala Met Ile Val Asn Gln Leu Ser Lys Lys Glu Ala Ser Arg
165 170 175

Arg Ala Leu Met Gly Ser Pro Gln Leu Val Ala Ala Val Val Arg Thr
180 185 190

Met Gln Asn Thr Ser Asp Leu Asp Thr Ala Arg Cys Thr Thr Ser Ile
195 200 205

Leu His Asn Leu Ser His His Arg Glu Gly Leu Leu Ala Ile Phe Lys
210 215 220

Ser Gly Gly Ile Pro Ala Leu Val Arg Met Leu Ser Ser Pro Val Glu
225 230 235 240

Ser Val Leu Phe Tyr Ala Ile Thr Thr Leu His Asn Leu Leu Leu Tyr
245 250 255

Gln Glu Gly Ala Lys Met Ala Val Arg Leu Ala Asp Gly Leu Gln Lys
260 265 270

Met Val Pro Leu Leu Asn Lys Asn Asn Pro Lys Phe Leu Ala Ile Thr
275 280 285

Thr Asp Cys Leu Gln Leu Leu Ala Tyr Gly Asn Gln Glu Ser Lys Leu
290 295 300

Ile Ile Leu Ala Asn Gly Gly Pro Gln Ala Leu Val Gln Ile Met Arg
305 310 315 320

Asn Tyr Ser Tyr Glu Lys Leu Leu Trp Thr Thr Ser Arg Val Leu Lys
325 330 335

Val Leu Ser Val Cys Pro Ser Asn Lys Pro Ala Ile Val Glu Ala Gly
340 345 350

Gly Met Gln Ala Leu Gly Lys His Leu Thr Ser Asn Ser Pro Arg Leu
355 360 365

Val Gln Asn Cys Leu Trp Thr Leu Arg Asn Leu Ser Asp Val Ala Thr
370 375 380

Lys Gln Glu Gly Leu Glu Ser Val Leu Lys Ile Leu Val Asn Gln Leu
Page 2

Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
 100 105 110
 Thr Ser Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp
 115 120 125
 Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile
 130 135 140
 Ile Ile Glu Leu Lys His Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys
 145 150 155 160
 Ser Leu Arg Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu
 165 170 175
 Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr
 180 185 190
 Ile Asp Leu Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp
 195 200 205
 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser
 210 215 220
 Leu Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu
 225 230 235 240
 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
 245 250 255
 Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile
 260 265 270
 Val Val Val Val Met Ala Val Val Ala Gly Ile Val Val Leu Val Ile
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 <213> Homo sapiens

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<223> E-Cadherin, Swissprot Accession P12830

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Asp Ala Glu Ser Tyr Thr Phe Thr Val Pro Arg Arg His Leu Glu Arg
35 40 45

Gly Arg Val Leu Gly Arg Val Asn Phe Glu Asp Cys Thr Gly Arg Gln
50 55 60

Arg Thr Ala Tyr Phe Ser Leu Asp Thr Arg Phe Lys Val Gly Thr Asp
65 70 75 80

Gly Val Ile Thr Val Lys Arg Pro Leu Arg Phe His Asn Pro Gln Ile
85 90 95

His Phe Leu Val Tyr Ala Trp Asp Ser Thr Tyr Arg Lys Phe Ser Thr
100 105 110

Lys Val Thr Leu Asn Thr Val Gly His His His Arg Pro Pro Pro His
115 120 125

Gln Ala Ser Val Ser Gly Ile Gln Ala Glu Leu Leu Thr Phe Pro Asn
130 135 140

Ser Ser Pro Gly Leu Arg Arg Gln Lys Arg Asp Trp Val Ile Pro Pro
145 150 155 160

Ile Ser Cys Pro Glu Asn Glu Lys Gly Pro Phe Pro Lys Asn Leu Val
165 170 175

Gln Ile Lys Ser Asn Lys Asp Lys Glu Gly Lys Val Phe Tyr Ser Ile
180 185 190

Thr Gly Gln Gly Ala Asp Thr Pro Pro Val Gly Val Phe Ile Ile Glu
195 200 205

Arg Glu Thr Gly Trp Leu Lys Val Thr Glu Pro Leu Asp Arg Glu Arg
210 215 220

Ile Ala Thr Tyr Thr Leu Phe Ser His Ala Val Ser Ser Asn Gly Asn
225 230 235 240

Ala Val Glu Asp Pro Met Glu Ile Leu Ile Thr Val Thr Asp Gln Asn
 245 250 255
 Asp Asn Lys Pro Glu Phe Thr Gln Glu Val Phe Lys Gly Ser Val Met
 260 265 270
 Glu Gly Ala Leu Pro Gly Thr Ser Val Met Glu Val Thr Ala Thr Asp
 275 280 285
 Ala Asp Asp Asp Val Asn Thr Tyr Asn Ala Ala Ile Ala Tyr Thr Ile
 290 295 300
 Leu Ser Gln Asp Pro Glu Leu Pro Asp Lys Asn Met Phe Thr Ile Asn
 305 310 315 320
 Arg Asn Thr Gly Val Ile Ser Val Val Thr Thr Gly Leu Asp Arg Glu
 325 330 335
 Ser Phe Pro Thr Tyr Thr Leu Val Val Gln Ala Ala Asp Leu Gln Gly
 340 345 350
 Glu Gly Leu Ser Thr Thr Ala Thr Ala Val Ile Thr Val Thr Asp Thr
 355 360 365
 Asn Asp Asn Pro Pro Ile Phe Asn Pro Thr Thr Tyr Lys Gly Gln Val
 370 375 380
 Pro Glu Asn Glu Ala Asn Val Val Ile Thr Thr Leu Lys Val Thr Asp
 385 390 395 400
 Ala Asp Ala Pro Asn Thr Pro Ala Trp Glu Ala Val Tyr Thr Ile Leu
 405 410 415
 Asn Asp Asp Gly Gly Gln Phe Val Val Thr Thr Asn Pro Val Asn Asn
 420 425 430
 Asp Gly Ile Leu Lys Thr Ala Lys Gly Leu Asp Phe Glu Ala Lys Gln
 435 440 445
 Gln Tyr Ile Leu His Val Ala Val Thr Asn Val Val Pro Phe Glu Val
 450 455 460
 Ser Leu Thr Thr Ser Thr Ala Thr Val Thr Val Asp Val Leu Asp Val
 465 470 475 480
 Asn Glu Ala Pro Ile Phe Val Pro Pro Glu Lys Arg Val Glu Val Ser
 485 490 495

Glu Asp Phe Gly Val Gly Gln Glu Ile Thr Ser Tyr Thr Ala Gln Glu
 500 505 510
 Pro Asp Thr Phe Met Glu Gln Lys Ile Thr Tyr Arg Ile Trp Arg Asp
 515 520 525
 Thr Ala Asn Trp Leu Glu Ile Asn Pro Asp Thr Gly Ala Ile Ser Thr
 530 535 540
 Arg Ala Glu Leu Asp Arg Glu Asp Phe Glu His Val Lys Asn Ser Thr
 545 550 555 560
 Tyr Thr Ala Leu Ile Ile Ala Thr Asp Asn Gly Ser Pro Val Ala Thr
 565 570 575
 Gly Thr Gly Thr Leu Leu Leu Ile Leu Ser Asp Val Asn Asp Asn Ala
 580 585 590
 Pro Ile Pro Glu Pro Arg Thr Ile Phe Phe Cys Glu Arg Asn Pro Lys
 595 600 605
 Pro Gln Val Ile Asn Ile Ile Asp Ala Asp Leu Pro Pro Asn Thr Ser
 610 615 620
 Pro Phe Thr Ala Glu Leu Thr His Gly Ala Ser Ala Asn Trp Thr Ile
 625 630 635 640
 Gln Tyr Asn Asp Pro Thr Gln Glu Ser Ile Ile Leu Lys Pro Lys Met
 645 650 655
 Ala Leu Glu Val Gly Asp Tyr Lys Ile Asn Leu Lys Leu Met Asp Asn
 660 665 670
 Gln Asn Lys Asp Gln Val Thr Thr Leu Glu Val Ser Val Cys Asp Cys
 675 680 685
 Glu Gly Ala Ala Gly Val Cys Arg Lys Ala Gln Pro Val Glu Ala Gly
 690 695 700
 Leu Gln Ile Pro Ala Ile Leu Gly Ile Leu Gly Gly Ile Leu Ala Leu
 705 710 715 720
 Leu Ile Leu Ile Leu Leu Leu Leu Leu Phe Leu Arg Arg Arg Ala Val
 725 730 735
 Val Lys Glu Pro Leu Leu Pro Pro Glu Asp Asp Thr Arg Asp Asn Val
 740 745 750

Tyr Tyr Tyr Asp Glu Glu Gly Gly Gly Glu Glu Asp Gln Asp Phe Asp
 755 760 765
 Leu Ser Gln Leu His Arg Gly Leu Asp Ala Arg Pro Glu Val Thr Arg
 770 775 780
 Asn Asp Val Ala Pro Thr Leu Met Ser Val Pro Arg Tyr Leu Pro Arg
 785 790 795 800
 Pro Ala Asn Pro Asp Glu Ile Gly Asn Phe Ile Asp Glu Asn Leu Lys
 805 810 815
 Ala Ala Asp Thr Asp Pro Thr Ala Pro Pro Tyr Asp Ser Leu Leu Val
 820 825 830
 Phe Asp Tyr Glu Gly Ser Gly Ser Glu Ala Ala Ser Leu Ser Ser Leu
 835 840 845
 Asn Ser Ser Glu Ser Asp Lys Asp Gln Asp Tyr Asp Tyr Leu Asn Glu
 850 855 860
 Trp Gly Asn Arg Phe Lys Lys Leu Ala Asp Met Tyr Gly Gly Gly Glu
 865 870 875 880
 Asp Asp

<210> 4
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 <212> PRT
 <213> Homo sapiens

<220>
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 <223> Alpha-1 Catenin, Swissprot Accession P35221

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 Val Thr Gln Val Thr Thr Leu Val Asn Thr Asn Ser Lys Gly Pro Ser
 35 40 45
 Asn Lys Lys Arg Gly Arg Ser Lys Lys Ala His Val Leu Ala Ala Ser
 50 55 60

Val Glu Gln Ala Thr Glu Asn Phe Leu Glu Lys Gly Asp Lys Ile Ala
65 70 75 80
Lys Glu Ser Gln Phe Leu Lys Glu Glu Leu Val Ala Ala Val Glu Asp
85 90 95
Val Arg Lys Gln Gly Asp Leu Met Lys Ala Ala Ala Gly Glu Phe Ala
100 105 110
Asp Asp Pro Cys Ser Ser Val Lys Arg Gly Asn Met Val Arg Ala Ala
115 120 125
Arg Ala Leu Leu Ser Ala Val Thr Arg Leu Leu Ile Leu Ala Asp Met
130 135 140
Ala Asp Val Tyr Lys Leu Leu Val Gln Leu Lys Val Val Glu Asp Gly
145 150 155 160
Ile Leu Lys Leu Arg Asn Ala Gly Asn Glu Gln Asp Leu Gly Ile Gln
165 170 175
Tyr Lys Ala Leu Lys Pro Glu Val Asp Lys Leu Asn Ile Met Ala Ala
180 185 190
Lys Arg Gln Gln Glu Leu Lys Asp Val Gly His Arg Asp Gln Met Ala
195 200 205
Ala Ala Arg Gly Ile Leu Gln Lys Asn Val Pro Ile Leu Tyr Thr Ala
210 215 220
Ser Gln Ala Cys Leu Gln His Pro Asp Val Ala Ala Tyr Lys Ala Asn
225 230 235 240
Arg Asp Leu Ile Tyr Lys Gln Leu Gln Gln Ala Val Thr Gly Ile Ser
245 250 255
Asn Ala Ala Gln Ala Thr Ala Ser Asp Asp Ala Ser Gln His Gln Gly
260 265 270
Gly Gly Gly Gly Glu Leu Ala Tyr Ala Leu Asn Asn Phe Asp Lys Gln
275 280 285
Ile Ile Val Asp Pro Leu Ser Phe Ser Glu Glu Arg Phe Arg Pro Ser
290 295 300
Leu Glu Glu Arg Leu Glu Ser Ile Ile Ser Gly Ala Ala Leu Met Ala
305 310 315 320

Asp Ser Ser Cys Thr Arg Asp Asp Arg Arg Glu Arg Ile Val Ala Glu
 325 330 335
 Cys Asn Ala Val Arg Gln Ala Leu Gln Asp Leu Leu Ser Glu Tyr Met
 340 345 350
 Gly Asn Ala Gly Arg Lys Glu Arg Ser Asp Ala Leu Asn Ser Ala Ile
 355 360 365
 Asp Lys Met Thr Lys Lys Thr Arg Asp Leu Arg Arg Gln Leu Arg Lys
 370 375 380
 Ala Val Met Asp His Val Ser Asp Ser Phe Leu Glu Thr Asn Val Pro
 385 390 395 400
 Leu Leu Val Leu Ile Glu Ala Ala Lys Asn Gly Asn Glu Lys Glu Val
 405 410 415
 Lys Glu Tyr Ala Gln Val Phe Arg Glu His Ala Asn Lys Leu Ile Glu
 420 425 430
 Val Ala Asn Leu Ala Cys Ser Ile Ser Asn Asn Glu Glu Gly Val Lys
 435 440 445
 Leu Val Arg Met Ser Ala Ser Gln Leu Glu Ala Leu Cys Pro Gln Val
 450 455 460
 Ile Asn Ala Ala Leu Ala Leu Ala Ala Lys Pro Gln Ser Lys Leu Ala
 465 470 475 480
 Gln Glu Asn Met Asp Leu Phe Lys Glu Gln Trp Glu Lys Gln Val Arg
 485 490 495
 Val Leu Thr Asp Ala Val Asp Asp Ile Thr Ser Ile Asp Asp Phe Leu
 500 505 510
 Ala Val Ser Glu Asn His Ile Leu Glu Asp Val Asn Lys Cys Val Ile
 515 520 525
 Ala Leu Gln Glu Lys Asp Val Asp Gly Leu Asp Arg Thr Ala Gly Ala
 530 535 540
 Ile Arg Gly Arg Ala Ala Arg Val Ile His Val Val Thr Ser Glu Met
 545 550 555 560
 Asp Asn Tyr Glu Pro Gly Val Tyr Thr Glu Lys Val Leu Glu Ala Thr
 565 570 575

Lys Leu Leu Ser Asn Thr Val Met Pro Arg Phe Thr Glu Gln Val Glu
 580 585 590

Ala Ala Val Glu Ala Leu Ser Ser Asp Pro Ala Gln Pro Met Asp Glu
 595 600 605

Asn Glu Phe Ile Asp Ala Ser Arg Leu Val Tyr Asp Gly Ile Arg Asp
 610 615 620

Ile Arg Lys Ala Val Leu Met Ile Arg Thr Pro Glu Glu Leu Asp Asp
 625 630 635 640

Ser Asp Phe Glu Thr Glu Asp Phe Asp Val Arg Ser Arg Thr Ser Val
 645 650 655

Gln Thr Glu Asp Asp Gln Leu Ile Ala Gly Gln Ser Ala Arg Ala Ile
 660 665 670

Met Ala Gln Leu Pro Gln Glu Gln Lys Ala Lys Ile Ala Glu Gln Val
 675 680 685

Ala Ser Phe Gln Glu Glu Lys Ser Lys Leu Asp Ala Glu Val Ser Lys
 690 695 700

Trp Asp Asp Ser Gly Asn Asp Ile Ile Val Leu Ala Lys Gln Met Cys
 705 710 715 720

Met Ile Met Met Glu Met Thr Asp Phe Thr Arg Gly Lys Gly Pro Leu
 725 730 735

Lys Asn Thr Ser Asp Val Ile Ser Ala Ala Lys Lys Ile Ala Glu Ala
 740 745 750

Gly Ser Arg Met Asp Lys Leu Gly Arg Thr Ile Ala Asp His Cys Pro
 755 760 765

Asp Ser Ala Cys Lys Gln Asp Leu Leu Ala Tyr Leu Gln Arg Ile Ala
 770 775 780

Leu Tyr Cys His Gln Leu Asn Ile Cys Ser Lys Val Lys Ala Glu Val
 785 790 795 800

Gln Asn Leu Gly Gly Glu Leu Val Val Ser Gly Val Asp Ser Ala Met
 805 810 815

Ser Leu Ile Gln Ala Ala Lys Asn Leu Met Asn Ala Val Val Gln Thr
 820 825 830

Val Lys Ala Ser Tyr Val Ala Ser Thr Lys Tyr Gln Lys Ser Gln Gly
835 840 845

Met Ala Ser Leu Asn Leu Pro Ala Val Ser Trp Lys Met Lys Ala Pro
850 855 860

Glu Lys Lys Pro Leu Val Lys Arg Glu Lys Gln Asp Glu Thr Gln Thr
865 870 875 880

Lys Ile Lys Arg Ala Ser Gln Lys Lys His Val Asn Pro Val Gln Ala
885 890 895

Leu Ser Glu Phe Lys Ala Met Asp Ser Ile
900 905

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<213> Homo sapiens

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<223> Alpha-2 Catenin, Swissprot Accession P26232

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Thr Gln Val Thr Thr Leu Val Asn Thr Ser Asn Lys Gly Pro Ser Gly
35 40 45

Lys Lys Lys Gly Arg Ser Lys Lys Ala His Val Leu Ala Ala Ser Val
50 55 60

Glu Gln Ala Thr Gln Asn Phe Leu Glu Lys Gly Glu Gln Ile Ala Lys
65 70 75 80

Glu Ser Gln Asp Leu Lys Glu Glu Leu Val Ala Ala Val Glu Asp Val
85 90 95

Arg Lys Gln Gly Glu Thr Met Arg Ile Ala Ser Ser Glu Phe Ala Asp
100 105 110

Asp Pro Cys Ser Ser Val Lys Arg Gly Thr Met Val Arg Ala Ala Arg

115	120	125
Ala Leu Leu Ser Ala Val Thr Arg Leu Leu Ile Leu Ala Asp Met Ala		
130	135	140
Asp Val Met Arg Leu Leu Ser His Leu Lys Ile Val Glu Glu Ala Leu		
145	150	155
Glu Ala Val Lys Asn Ala Thr Asn Glu Gln Asp Leu Ala Asn Arg Phe		
	165	170
Lys Glu Phe Gly Lys Lys Met Val Lys Leu Asn Tyr Val Ala Ala Arg		
	180	185
Arg Gln Gln Glu Leu Lys Asp Pro His Cys Arg Asp Glu Met Ala Ala		
	195	200
Ala Arg Gly Ala Leu Lys Lys Asn Ala Thr Met Leu Tyr Thr Ala Ser		
	210	215
Gln Ala Phe Leu Arg His Pro Asp Val Ala Ala Thr Arg Ala Asn Arg		
	225	230
Asp Tyr Val Phe Lys Gln Val Gln Glu Ala Ile Ala Gly Ile Ser Asn		
	245	250
Ala Ala Gln Ala Thr Ser Pro Thr Asp Glu Ala Lys Gly His Thr Gly		
	260	265
Ile Gly Glu Leu Ala Ala Ala Leu Asn Glu Phe Asp Asn Lys Ile Ile		
	275	280
Leu Asp Pro Met Thr Phe Ser Glu Ala Arg Phe Arg Pro Ser Leu Glu		
	290	295
Glu Arg Leu Glu Ser Ile Ile Ser Gly Ala Ala Leu Met Ala Asp Ser		
	305	310
Ser Cys Thr Arg Asp Asp Arg Arg Glu Arg Ile Val Ala Glu Cys Asn		
	325	330
Ala Val Arg Gln Ala Leu Gln Asp Leu Leu Ser Glu Tyr Met Asn Asn		
	340	345
Thr Gly Arg Lys Glu Lys Gly Asp Pro Leu Asn Ile Ala Ile Asp Lys		
	355	360
Met Thr Lys Lys Thr Arg Asp Leu Arg Arg Gln Leu Arg Lys Ala Val		

370

375

380

Met Asp His Ile Ser Asp Ser Phe Leu Glu Thr Asn Val Pro Leu Leu
385 390 395 400

Val Leu Ile Glu Ala Ala Lys Ser Gly Asn Glu Lys Glu Val Lys Glu
405 410 415

Tyr Ala Gln Val Phe Arg Glu His Ala Asn Lys Leu Val Glu Val Ala
420 425 430

Asn Leu Ala Cys Ser Ile Ser Asn Asn Glu Glu Gly Val Lys Leu Val
435 440 445

Arg Met Ala Ala Thr Gln Ile Asp Ser Leu Cys Pro Gln Val Ile Asn
450 455 460

Ala Ala Leu Thr Leu Ala Ala Arg Pro Gln Ser Lys Val Ala Gln Asp
465 470 475 480

Asn Met Asp Val Phe Lys Asp Gln Trp Glu Lys Gln Val Arg Val Leu
485 490 495

Thr Glu Ala Val Asp Asp Ile Thr Ser Val Asp Asp Phe Leu Ser Val
500 505 510

Ser Glu Asn His Ile Leu Glu Asp Val Asn Lys Cys Val Ile Ala Leu
515 520 525

Gln Glu Gly Asp Val Asp Thr Leu Asp Arg Thr Ala Gly Ala Ile Arg
530 535 540

Gly Arg Ala Ala Arg Val Ile His Ile Ile Asn Ala Glu Met Glu Asn
545 550 555 560

Tyr Glu Ala Gly Val Tyr Thr Glu Lys Val Leu Glu Ala Thr Lys Leu
565 570 575

Leu Ser Glu Thr Val Met Pro Arg Phe Ala Glu Gln Val Glu Val Ala
580 585 590

Ile Glu Ala Leu Ser Ala Asn Val Pro Gln Pro Phe Glu Glu Asn Glu
595 600 605

Phe Ile Asp Ala Ser Arg Leu Val Tyr Asp Gly Val Arg Asp Ile Arg
610 615 620

Lys Ala Val Leu Met Ile Arg Thr Pro Glu Glu Leu Glu Asp Asp Ser
Page 15

625		630		635		640
Asp Phe Glu Gln	Glu Asp Tyr Asp Val	Arg Arg Gly Thr Ser Val	Gln			
	645	650	655			
Thr Glu Asp Asp	Gln Leu Ile Ala Gly	Gln Ser Ala Arg Ala	Ile Met			
	660	665	670			
Ala Gln Leu Pro	Gln Glu Glu Lys	Ala Lys Ile Ala	Glu Gln Val Glu			
	675	680	685			
Ile Phe His Gln	Glu Lys Ser Lys	Leu Asp Ala Glu	Val Ala Lys Trp			
	690	695	700			
Asp Asp Ser Gly	Asn Asp Ile Ile Val	Leu Ala Lys Gln	Met Cys Met			
	705	710	715			
Ile Met Met Glu	Met Thr Asp Phe Thr	Arg Gly Lys Gly	Pro Leu Lys			
	725	730	735			
Asn Thr Ser Asp	Val Ile Asn Ala Ala	Lys Lys Ile Ala	Glu Ala Gly			
	740	745	750			
Ser Arg Met Asp	Lys Leu Ala Arg	Ala Val Ala Asp	Gln Cys Pro Asp			
	755	760	765			
Ser Ala Cys Lys	Gln Asp Leu Leu	Ala Tyr Leu Gln	Arg Ile Ala Leu			
	770	775	780			
Tyr Cys His Gln	Leu Asn Ile Cys	Ser Lys Val Lys	Ala Glu Val Gln			
	785	790	795			800
Asn Leu Gly Gly	Glu Leu Ile Val	Ser Gly Thr Gly	Val Gln Ser Thr			
	805	810	815			
Phe Thr Thr Phe	Tyr Glu Val Asp	Cys Asp Val Ile	Asp Gly Gly Arg			
	820	825	830			
Ala Ser Gln Leu	Ser Thr His Leu	Pro Thr Cys Ala	Glu Gly Ala Pro			
	835	840	845			
Ile Gly Ser Gly	Ser Ser Asp Ser	Ser Met Leu Asp	Ser Ala Thr Ser			
	850	855	860			
Leu Ile Gln Ala	Ala Lys Asn Leu	Met Asn Ala Val	Val Leu Thr Val			
	865	870	875			880
Lys Ala Ser Tyr	Val Ala Ser Thr	Lys Tyr Gln Lys	Val Tyr Gly Thr			

885 890 895
 Ala Ala Val Asn Ser Pro Val Val Ser Trp Lys Met Lys Ala Pro Glu
 900 905 910
 Lys Lys Pro Leu Val Lys Arg Glu Lys Pro Glu Glu Phe Gln Thr Arg
 915 920 925
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 Ser Glu Phe Lys Ala Met Asp Ser Phe
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 Ser Gly Ile His Ser Gly Ala Thr Thr Thr Ala Pro Ser Leu Ser Gly
 35 40 45
 Lys Gly Asn Pro Glu Glu Glu Asp Val Asp Thr Ser Gln Val Leu Tyr
 50 55 60
 Glu Trp Glu Gln Gly Phe Ser Gln Ser Phe Thr Gln Glu Gln Val Ala
 65 70 75 80
 Asp Ile Asp Gly Gln Tyr Ala Met Thr Arg Ala Gln Arg Val Arg Ala
 85 90 95
 Ala Met Phe Pro Glu Thr Leu Asp Glu Gly Met Gln Ile Pro Ser Thr
 100 105 110
 Gln Phe Asp Ala Ala His Pro Thr Asn Val Gln Arg Leu Ala Glu Pro
 115 120 125

Ser Gln Met Leu Lys His Ala Val Val Asn Leu Ile Asn Tyr Gln Asp
 130 135 140
 Asp Ala Glu Leu Ala Thr Arg Ala Ile Pro Glu Leu Thr Lys Leu Leu
 145 150 155 160
 Asn Asp Glu Asp Gln Val Val Val Asn Lys Ala Ala Val Met Val His
 165 170 175
 Gln Leu Ser Lys Lys Glu Ala Ser Arg His Ala Ile Met Arg Ser Pro
 180 185 190
 Gln Met Val Ser Ala Ile Val Arg Thr Met Gln Asn Thr Asn Asp Val
 195 200 205
 Glu Thr Ala Arg Cys Thr Ala Gly Thr Leu His Asn Leu Ser His His
 210 215 220
 Arg Glu Gly Leu Leu Ala Ile Phe Lys Ser Gly Gly Ile Pro Ala Leu
 225 230 235 240
 Val Lys Met Leu Gly Ser Pro Val Asp Ser Val Leu Phe Tyr Ala Ile
 245 250 255
 Thr Thr Leu His Asn Leu Leu Leu His Gln Glu Gly Ala Lys Met Ala
 260 265 270
 Val Arg Leu Ala Gly Gly Leu Gln Lys Met Val Ala Leu Leu Asn Lys
 275 280 285
 Thr Asn Val Lys Phe Leu Ala Ile Thr Thr Asp Cys Leu Gln Ile Leu
 290 295 300
 Ala Tyr Gly Asn Gln Glu Ser Lys Leu Ile Ile Leu Ala Ser Gly Gly
 305 310 315 320
 Pro Gln Ala Leu Val Asn Ile Met Arg Thr Tyr Thr Tyr Glu Lys Leu
 325 330 335
 Leu Trp Thr Thr Ser Arg Val Leu Lys Val Leu Ser Val Cys Ser Ser
 340 345 350
 Asn Lys Pro Ala Ile Val Glu Ala Gly Gly Met Gln Ala Leu Gly Leu
 355 360 365
 His Leu Thr Asp Pro Ser Gln Arg Leu Val Gln Asn Cys Leu Trp Thr
 370 375 380

Leu Arg Asn Leu Ser Asp Ala Ala Thr Lys Gln Glu Gly Met Glu Gly
 385 390 395 400
 Leu Leu Gly Thr Leu Val Gln Leu Leu Gly Ser Asp Asp Ile Asn Val
 405 410 415
 Val Thr Cys Ala Ala Gly Ile Leu Ser Asn Leu Thr Cys Asn Asn Tyr
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 Lys Asn Lys Met Met Val Cys Gln Val Gly Gly Ile Glu Ala Leu Val
 435 440 445
 Arg Thr Val Leu Arg Ala Gly Asp Arg Glu Asp Ile Thr Glu Pro Ala
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 Ile Cys Ala Leu Arg His Leu Thr Ser Arg His Gln Glu Ala Glu Met
 465 470 475 480
 Ala Gln Asn Ala Val Arg Leu His Tyr Gly Leu Pro Val Val Val Lys
 485 490 495
 Leu Leu His Pro Pro Ser His Trp Pro Leu Ile Lys Ala Thr Val Gly
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 Glu Gln Gly Ala Ile Pro Arg Leu Val Gln Leu Leu Val Arg Ala His
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 Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln Gln Phe
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 Val Glu Gly Val Arg Met Glu Glu Ile Val Glu Gly Cys Thr Gly Ala
 565 570 575
 Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile Arg Gly
 580 585 590
 Leu Asn Thr Ile Pro Leu Phe Val Gln Leu Leu Tyr Ser Pro Ile Glu
 595 600 605
 Asn Ile Gln Arg Val Ala Ala Gly Val Leu Cys Glu Leu Ala Gln Asp
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 Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu Gly Ala Thr Ala Pro Leu
 625 630 635 640

Thr Glu Leu Leu His Ser Arg Asn Glu Gly Val Ala Thr Tyr Ala Ala
645 650 655

Ala Val Leu Phe Arg Met Ser Glu Asp Lys Pro Gln Asp Tyr Lys Lys
660 665 670

Arg Leu Ser Val Glu Leu Thr Ser Ser Leu Phe Arg Thr Glu Pro Met
675 680 685

Ala Trp Asn Glu Thr Ala Asp Leu Gly Leu Asp Ile Gly Ala Gln Gly
690 695 700

Glu Pro Leu Gly Tyr Arg Gln Asp Asp Pro Ser Tyr Arg Ser Phe His
705 710 715 720

Ser Gly Gly Tyr Gly Gln Asp Ala Leu Gly Met Asp Pro Met Met Glu
725 730 735

His Glu Met Gly Gly His His Pro Gly Ala Asp Tyr Pro Val Asp Gly
740 745 750

Leu Pro Asp Leu Gly His Ala Gln Asp Leu Met Asp Gly Leu Pro Pro
755 760 765

Gly Asp Ser Asn Gln Leu Ala Trp Phe Asp Thr Asp Leu
770 775 780

<210> 7
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<212> PRT
<213> Homo sapiens

<220>
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<222> (1)..(585)
<223> Involucrin, Swissprot Accession P07476

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Gln Met Lys Gln Pro Thr Pro Leu Pro Pro Pro Cys Gln Lys Val Pro
35 40 45

Val Glu Leu Pro Val Glu Val Pro Ser Lys Gln Glu Glu Lys His Met
50 55 60

Thr Ala Val Lys Gly Leu Pro Glu Gln Glu Cys Glu Gln Gln Gln Lys
 65 70 75 80
 Glu Pro Gln Glu Gln Glu Leu Gln Gln Gln His Trp Glu Gln His Glu
 85 90 95
 Glu Tyr Gln Lys Ala Glu Asn Pro Glu Gln Gln Leu Lys Gln Glu Lys
 100 105 110
 Thr Gln Arg Asp Gln Gln Leu Asn Lys Gln Leu Glu Glu Glu Lys Lys
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 Leu Leu Asp Gln Gln Leu Asp Gln Glu Leu Val Lys Arg Asp Glu Gln
 130 135 140
 Leu Gly Met Lys Lys Glu Gln Leu Leu Glu Leu Pro Glu Gln Gln Glu
 145 150 155 160
 Gly His Leu Lys His Leu Glu Gln Gln Glu Gly Gln Leu Lys His Pro
 165 170 175
 Glu Gln Gln Glu Gly Gln Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln
 180 185 190
 Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln Leu Glu Leu Pro Glu Gln
 195 200 205
 Gln Glu Gly Gln Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln Leu Glu
 210 215 220
 Leu Pro Gln Gln Gln Glu Gly Gln Leu Glu Leu Ser Glu Gln Gln Glu
 225 230 235 240
 Gly Gln Leu Glu Leu Ser Glu Gln Gln Glu Gly Gln Leu Glu Leu Ser
 245 250 255
 Glu Gln Gln Glu Gly Gln Leu Lys His Leu Glu His Gln Glu Gly Gln
 260 265 270
 Leu Glu Val Pro Glu Glu Gln Met Gly Gln Leu Lys Tyr Leu Glu Gln
 275 280 285
 Gln Glu Gly Gln Leu Lys His Leu Asp Gln Gln Glu Lys Gln Pro Glu
 290 295 300
 Leu Pro Glu Gln Gln Met Gly Gln Leu Lys His Leu Glu Gln Gln Glu
 305 310 315 320

Gly Gln Pro Lys His Leu Glu Gln Gln Glu Gly Gln Leu Glu Gln Leu
 325 330 335

Glu Glu Gln Glu Gly Gln Leu Lys His Leu Glu Gln Gln Glu Gly Gln
 340 345 350

Leu Glu His Leu Glu His Gln Glu Gly Gln Leu Gly Leu Pro Glu Gln
 355 360 365

Gln Val Leu Gln Leu Lys Gln Leu Glu Lys Gln Gln Gly Gln Pro Lys
 370 375 380

His Leu Glu Glu Glu Glu Gly Gln Leu Lys His Leu Val Gln Gln Glu
 385 390 395 400

Gly Gln Leu Lys His Leu Val Gln Gln Glu Gly Gln Leu Glu Gln Gln
 405 410 415

Glu Arg Gln Val Glu His Leu Glu Gln Gln Val Gly Gln Leu Lys His
 420 425 430

Leu Glu Glu Gln Glu Gly Gln Leu Lys His Leu Glu Gln Gln Gln Gly
 435 440 445

Gln Leu Glu Val Pro Glu Gln Gln Val Gly Gln Pro Lys Asn Leu Glu
 450 455 460

Gln Glu Glu Lys Gln Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln Val
 465 470 475 480

Lys His Leu Glu Lys Gln Glu Ala Gln Leu Glu Leu Pro Glu Gln Gln
 485 490 495

Val Gly Gln Pro Lys His Leu Glu Gln Gln Glu Lys His Leu Glu His
 500 505 510

Pro Glu Gln Gln Asp Gly Gln Leu Lys His Leu Glu Gln Gln Glu Gly
 515 520 525

Gln Leu Lys Asp Leu Glu Gln Gln Lys Gly Gln Leu Glu Gln Pro Val
 530 535 540

Phe Ala Pro Ala Pro Gly Gln Val Gln Asp Ile Gln Pro Ala Leu Pro
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Thr Lys Gly Glu Val Leu Leu Pro Val Glu His Gln Gln Gln Lys Gln
 565 570 575

Glu Val Gln Trp Pro Pro Lys His Lys
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Lys Glu Gln Glu Ala Gln Phe Glu Lys Leu Thr Arg Ala Leu Glu Glu
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Glu Arg Arg His Val Ser Ala Gln Leu Glu Arg Val Arg Val Ser Pro
35 40 45

Gln Asp Ala Asn Pro Leu Met Ala Asn Gly Thr Leu Thr Arg Arg His
50 55 60

Gln Asn Gly Arg Phe Val Gly Asp Ala Asp Leu Glu Arg Gln Lys Phe
65 70 75 80

Ser Asp Leu Lys Leu Asn Gly Pro Gln Asp His Ser His Leu Leu Tyr
85 90 95

Ser Thr Ile Pro Arg Met Gln Glu Pro Gly Gln Ile Val Glu Thr Tyr
100 105 110

Thr Glu Glu Asp Pro Glu Gly Ala Met Ser Val Val Ser Val Glu Thr
115 120 125

Ser Asp Asp Gly Thr Thr Arg Arg Thr Glu Thr Thr Val Lys Lys Val
130 135 140

Val Lys Thr Val Thr Thr Arg Thr Val Gln Pro Val Ala Met Gly Pro
145 150 155 160

Asp Gly Leu Pro Val Asp Ala Ser Ser Val Ser Asn Asn Tyr Ile Gln
165 170 175

Thr Leu Gly Arg Asp Phe Arg Lys Asn Gly Asn Gly Gly Pro Gly Pro
180 185 190

Tyr Val Gly Gln Ala Gly Thr Ala Thr Leu Pro Arg Asn Phe His Tyr
 195 200 205

Pro Pro Asp Gly Tyr Ser Arg His Tyr Glu Asp Gly Tyr Pro Gly Gly
 210 215 220

Ser Asp Asn Tyr Gly Ser Leu Ser Arg Val Thr Arg Ile Glu Glu Arg
 225 230 235 240

Tyr Arg Pro Ser Met Glu Gly Tyr Arg Ala Pro Ser Arg Gln Asp Val
 245 250 255

Tyr Gly Pro Gln Pro Gln Val Arg Val Gly Gly Ser Ser Val Asp Leu
 260 265 270

His Arg Phe His Pro Glu Pro Tyr Gly Leu Glu Asp Asp Gln Arg Ser
 275 280 285

Met Gly Tyr Asp Asp Leu Asp Tyr Gly Met Met Ser Asp Tyr Gly Thr
 290 295 300

Ala Arg Arg Thr Gly Thr Pro Ser Asp Pro Arg Arg Arg Leu Arg Ser
 305 310 315 320

Tyr Glu Asp Met Ile Gly Glu Glu Val Pro Ser Asp Gln Tyr Tyr Trp
 325 330 335

Ala Pro Leu Ala Gln His Glu Arg Gly Ser Leu Ala Ser Leu Asp Ser
 340 345 350

Leu Arg Lys Gly Gly Pro Pro Pro Pro Asn Trp Arg Gln Pro Glu Leu
 355 360 365

Pro Glu Val Ile Ala Met Leu Gly Phe Arg Leu Asp Ala Val Lys Ser
 370 375 380

Asn Ala Ala Ala Tyr Leu Gln His Leu Cys Tyr Arg Asn Asp Lys Val
 385 390 395 400

Lys Thr Asp Val Arg Lys Leu Lys Gly Ile Pro Val Leu Val Gly Leu
 405 410 415

Leu Asp His Pro Lys Lys Glu Val His Leu Gly Ala Cys Gly Ala Leu
 420 425 430

Lys Asn Ile Ser Phe Gly Arg Asp Gln Asp Asn Lys Ile Ala Ile Lys
 435 440 445

Asn Cys Asp Gly Val Pro Ala Leu Val Arg Leu Leu Arg Lys Ala Arg
 450 455 460

Asp Met Asp Leu Thr Glu Val Ile Thr Gly Thr Leu Trp Asn Leu Ser
 465 470 475 480

Ser His Asp Ser Ile Lys Met Glu Ile Val Asp His Ala Leu His Ala
 485 490 495

Leu Thr Asp Glu Val Ile Ile Pro His Ser Gly Trp Glu Arg Glu Pro
 500 505 510

Asn Glu Asp Cys Lys Pro Arg His Ile Glu Trp Glu Ser Val Leu Thr
 515 520 525

Asn Thr Ala Gly Cys Leu Arg Asn Val Ser Ser Glu Arg Ser Glu Ala
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Arg Arg Lys Leu Arg Glu Cys Asp Gly Leu Val Asp Ala Leu Ile Phe
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Ile Val Gln Ala Glu Ile Gly Gln Lys Asp Ser Asp Ser Lys Leu Val
 565 570 575

Glu Asn Cys Val Cys Leu Leu Arg Asn Leu Ser Tyr Gln Val His Arg
 580 585 590

Glu Ile Pro Gln Ala Glu Arg Tyr Gln Glu Ala Ala Pro Asn Val Ala
 595 600 605

Asn Asn Thr Gly Pro His Ala Ala Ser Cys Phe Gly Ala Lys Lys Gly
 610 615 620

Lys Asp Glu Trp Phe Ser Arg Gly Lys Lys Pro Ile Glu Asp Pro Ala
 625 630 635 640

Asn Asp Thr Val Asp Phe Pro Lys Arg Thr Ser Pro Ala Arg Gly Tyr
 645 650 655

Glu Leu Leu Phe Gln Pro Glu Val Val Arg Ile Tyr Ile Ser Leu Leu
 660 665 670

Lys Glu Ser Lys Thr Pro Ala Ile Leu Glu Ala Ser Ala Gly Ala Ile
 675 680 685

Gln Asn Leu Cys Ala Gly Arg Trp Thr Tyr Gly Arg Tyr Ile Arg Ser
 690 695 700

Ala Leu Arg Gln Glu Lys Ala Leu Ser Ala Ile Ala Asp Leu Leu Thr
 705 710 715 720
 Asn Glu His Glu Arg Val Val Lys Ala Ala Ser Gly Ala Leu Arg Asn
 725 730 735
 Leu Ala Val Asp Ala Arg Asn Lys Glu Leu Ile Gly Lys His Ala Ile
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 Pro Asn Leu Val Lys Asn Leu Pro Gly Gly Gln Gln Asn Ser Ser Trp
 755 760 765
 Asn Phe Ser Glu Asp Thr Val Ile Ser Ile Leu Asn Thr Ile Asn Glu
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 Val Ile Ala Glu Asn Leu Glu Ala Ala Lys Lys Leu Arg Glu Thr Gln
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 Gly Ile Glu Lys Leu Val Leu Ile Asn Lys Ser Gly Asn Arg Ser Glu
 805 810 815
 Lys Glu Val Arg Ala Ala Ala Leu Val Leu Gln Thr Ile Trp Gly Tyr
 820 825 830
 Lys Glu Leu Arg Lys Pro Leu Glu Lys Glu Gly Trp Lys Lys Ser Asp
 835 840 845
 Phe Gln Val Asn Leu Asn Asn Ala Ser Arg Ser Gln Ser Ser His Ser
 850 855 860
 Tyr Asp Asp Ser Thr Leu Pro Leu Ile Asp Arg Asn Gln Lys Ser Asp
 865 870 875 880
 Lys Lys Pro Asp Arg Glu Glu Ile Gln Met Ser Asn Met Gly Ser Asn
 885 890 895
 Thr Lys Ser Leu Asp Asn Asn Tyr Ser Thr Pro Asn Glu Arg Gly Asp
 900 905 910
 His Asn Arg Thr Leu Asp Arg Ser Gly Asp Leu Gly Asp Met Glu Pro
 915 920 925
 Leu Lys Gly Thr Thr Pro Leu Met Gln Asp Glu Gly Gln Glu Ser Leu
 930 935 940
 Glu Glu Glu Leu Asp Val Leu Val Leu Asp Asp Glu Gly Gly Gln Val
 945 950 955 960

Ser Tyr Pro Ser Met Gln Lys Ile
965